ORIGINS TECHNOLOGY SUMMARY

REQUIRED CAPABILITY		PERFORMANCE GOALS					TECHNOLOGY OPTIONS			
DESCRIPTION	PRIORITY	METRICS	UNITS	SIM	NGST	TPFA	DESCRIPTION	SOA	LIMIT	DEMO?
Vibration Suppression	High						**6-Axis Hexapod**			
Active/Passive		broadband attenuation	dB	30	TBD	TBD	broadband attenuation	30 dB B/B	> 1 Hz only	ground test
Isolation		narrowband attenuation	dB	40	TBD	TBD	narrowband attenuation	40 dB N/B	60 dB N/B	flight
		operating temperature	K	293	40	40	operating temperature	293K	230-240K	planned
							6-Axis Magnetic Suspension			
							• heavy			
							• power hungry			
							• expensive			
							broadband attenuation	80 dB B/B	80 dB B/B	ground test
							narrowband attenuation	TBD dB N/B	TBD N/B	
							operating temperature	293K	TBDK	
Vibration Suppression	Medium						**Passive Modal Damping**			ground
Structural Damping		damping < 50 Hz	% crit	TBD	TBD	TBD	damping - modes < 50 Hz			
		damping > 50 Hz	% crit	TBD	TBD	TBD	damping - modes > 50 Hz	5%	10%	
		operating temp	K	293	40	35	operating temperature	>250K	TBDK	
							Active Model Based Control			ground
							damping - modes < 50 Hz	40 dB B/B	50 dB B/B	
							damping - modes > 50 Hz	50 dB N/B	60 dB N/B	
							operating temperature			
Health Monitoring	Medium	graceful degradation	TBD	TBD	TBD	TBD	**Autonomous Instru. Operations**	TBD	TBD	none to
& Reconfigurable		fault recovery					• good candidate for piggyback			date
Control		experience based fine tuning, learning					flight demonstration			

Vibration Isolation & Suppression